WIPO RESPONSE - THIRD SESSION NOTES OF THE MEETING HELD ON NOVEMBER 4, 2021

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WORLD INTELLECTUAL PROPERTY ORGANISATION

CONVERSATION ON INTELLECTUAL PROPERTY (IP) AND ARTIFICIAL INTELLIGENCE (AI)

THIRD SESSION

Wednesday November 4th 2020

Darren Tang, Director General

Began with introducing everyone to the session. Shared some interesting statistics:

- 2018 Study by the McKinsey Global Institute, at least 1 form of AI technology could be incorporated in at least 70 companies around the world and AI could potentially deliver additional economic activity of USD 13 trillion by 2030.
- 2019 study by same institute found nearly 25% year on year increase of AI in standard business processes.

According to WIPO's technology trend reports 2019, since AI emerged in the 1950s, nearly 340,000 AI related patent applications have been filed and over 1.6 million scientific publications published.

With COVID-19 AI adoption trends have been accelerated. The situation has highlighted the importance of AI innovation. AI has helped in fighting the pandemic i.e. contact tracing and image screening diagnostics. The acceleration has also been driving trends in creative industries including the shift to digital content. Content providers are also using AI to guide consumers in decision making, recommend content and analyze consumption. The use of AI is starting to shape the creation of content itself.

It becomes more important however to strive for a multidisciplinary and multilateral approach to today's topic. We should take a holistic approach engaging with the discussions in a cross variety of fields including ethics of AI. In particular, how can we ensure that AI starts to address/narrow rather than widen the capacity?

WIPO's mission is to support innovation and creativity. Using its ability as a convener, they want to provide a forum in order to foster the growth of economies and support innovative enterprises and creators for the benefit of all countries. The issues that could not be covered during the July session are those that will be covered in today's session.

Session One: Definitions

Keynote Speaker: Amanda Solloway, Minister for Science, Research and Innovation, United Kingdom

New technologies have always posed new questions for IP i.e printing press revolution, recorded music etc. Over the past 10 years, AI technologies have accelerated. AI technologies are also becoming a part of everyday life. The fact that there has been a 400% increase in AI patent applications around the world in the past decade shows how fast things are moving. This pace of change has thrown up some thorny questions e.g. can a machine be a rights holder? The fact that AI has such amazing potential in the way we live, work and create makes this all the more important. A strong IP system is critical to harnessing that potential.

In the UK, they launched a call for views to gather info and ideas about AI and IP. They acknowledge that a strong AI sector uses a strong IP framework. They also understand that this depends on their understanding of its commercial, economic, legal and social implications.

We also need to look for answers internationally across borders. It is vital to develop common standards, definitions and approaches. This will enable the different AI industries to collaborate which will allows our institutions to share ideas applying these technologies to the common challenges we face. This will ensure consistency which is absolutely key. Consistency leads to confidence which can unlock the full global investment needed to bring AI technologies to market.

Unclear definitions and variable standards create uncertainty. Businesses, researchers and investors need predictability in the international system. There's no better forum for these discussions than WIPO. The UK is in the final stages of developing an AI tool to improve the chances of successfully registering a trademark helping applicants to choose the correct trademark classification thereby making it easier for individuals and smaller businesses to protect themselves.

As well as the thorny legal questions that AI raises, it also has huge protection to assist with the enforcement of IPRs particularly protecting businesses and consumers online. As E-commerce grows, the challenge of enforcing IPRs increases. How can AI assist in the fight against counterfeit?

We need to establish a shared framework on administrative decisions so that we can have comparable protections against different countries. If AI is to help, identify and prosecute rights infringement, stakeholders need to know how to challenges decisions and the role humans will play.

Hopes that WIPO will develop a priority list going forward with things like inventorship, authorship and the liability for infringement. WIPO should also enable buy-in by member states in its general assembly next year to allow member states to decide future direction for this work.

Mr. Jean-Marc Delton, Senior Researcher, Centre for Intellectual Property, University of Strasbourg

AI has become part of everyday life. In recent years, we have witnessed dramatic changes when it comes to autonomous vehicles, medical diagnosis and other applications in finance, manufacturing etc. AI has also become a strategic driver of economic development and has thus affected the IP filed.

The issue of definitions of AI both as an object of protection and as a creative means are emerging issues. A clear and unambiguous definition is a foundation on which any constructive conversation about AI and IP can be established at the technical level or at the normative level.

Within the AI filed itself, the theories of intelligence and the goals of AI has been the source of much confusion. The long lasting opposition between the proponents of symbolic approach to AI and those advocating for a connection is a reminder of the possible consequences of a lack definitional common ground. This profound divide has not only precluded the development of technical collaborations but has also prevented the development of standardized evaluation criteria.

At the regulatory and governance level, the question of definitions is also an essential one. Regulation must provide a clear definition of the material scope which can refer to an object e.g. AI, neural networks or to an activity e.g. the specific use of an AI application. This scope determines whether or not a regulation is applicable in a particular situation.

Inherent ambiguity in definition of AI and its various facets is making it an urgent requirement to draft both effective policies and regulations as it can be a topic of public concern when AI systems fail or when they lead to potential abuses. The question of definition is also particularly pressing at the level of IP policy. The object of protection and the conditions leading for example to the grant of a title or to an exclusive right must be precisely defined.

It is surprising that we are still struggling with a definition of AI as the expression is more than 60 years old. John McCarthy first coined the term AI in 1956 when he invited a group of researchers from a variety of disciplines including linguistics, neural networks, information theory to a summer camp to discuss what would ultimately become the field of AI. McCarthy is said to have picked the name AI because of its neutrality to avoid favouring one of the tracks being pursued at the time that included cybernetics, automata theory and operational research amongst others.

As modern definitions and dictionaries put it. AI is considered to be a discipline of computer science aimed at developing machines and systems that can carry out tasks considered to require human intelligence with limited or no human intelligence. Its broad definition may not be particularly satisfying in particular when it comes to circumscribing precisely an object of protection, an invention or a work that can become the source of a property right.

But why is such a task of definition so difficult in practice? For one, the definition of AI relies on the definition of intelligence. However, even the term intelligence/human intelligence cannot be clearly delineated. Some have defined intelligence with fidelity to human performance while others prefer an abstract definition called rationality (doing the right thing).

The subject matter itself also varies. Some consider intelligence to be a concept of internal thought processes and reasoning while others focus on intelligent behavior and external characterization.

AI cannot be considered a single monolithic entity. In practice, it includes a large spectrum of techniques and concepts that may each require a definitional effort. Consider machine learning, it can be defined as a subset of AI that relies on statistical techniques that gives machines the ability to learn from data. Once a machine learning algorithm has been trained, the output of the training model can then be used to make predictions. All the constituent elements may require further specification in particular within an IP setting.

For example, the notion of automation. This notion may require further definitional effort in particular when one deals with statements such as autonomously generated or independently generated. This effort is critical to avoid the pitfalls of totalogical statements and circular reasoning, an issue, all the more complex as the meaning of these terms may also depend on the use cases.

Additionally, IP law resorts to a cohort of entities, metrics, legal fictions intimately intertwined with the object of protection. Questions may arise such as hwo to define the notion of technicality in the context of AI applications, how to characterize the limit between AI generated and AI assisted outputs?

Such questions highlight how much IP law remain vibrant in a constantly evolving normative IP framework.

From its inception more than 60 year ago to recent successes, since AI has become a general purpose technology, providing a commonly accepted definition of AI and its components remains a work in progress. The task of designing a technologically neutral, future proof framework for AI might be all the more difficult as the field is rapidly evolving. Getting a shared definition of AI will require inclusiveness and transparency as well as a multidisciplinary approach.

Mr. Leopoldo Belda-Soriano

Recently we have experienced a golden age of AI motivated above all by the abundance of data thanks to interconnectedness and an improvement in information processing facilitated by the fourth industrial revolution.

Speaking of AI it is inevitable to consider an era in which AI will have a greater capacity than what it is showing now, something known as general AI. This has led to an interesting debate concerning AI generated inventions where there is an intense discussion of an issue of who should be stated to be an inventor.

It has also been advanced that the appearance of AI generated inventions will have an impact on the evalutation of the requisite inventive step and even for the survival of the patent system because if the objective of the patent system is to provide incentives for generating inventions which can contribute to technological processes, we would have to rethink its role in a situation in which general AI may become capable of “inventing” without needing incentives.

They consider that it is necessary to give a definition of a wide series of terms which have been used abundantly in connection with inventions and patents particularly: AI generated inventions such as those that are autonomously generated and AI assisted inventions. The key is to determine when AI develops an invention and when it is a tool.

It would seem there is some confusion between the concepts of automaticity and autonomy. According to experts in the field, we have not yet autonomy in AI and the inventive process. Consequently, it does not seem justified to consider that an algorithm or software has autonomy to invent. In the initial attempts to study the relation between AI and industrial property, there is a disconnect between lawyers and experts in AI. Consequently, we're not in favour of defining what is AI generated and what is AI assisted from a legal viewpoint. Instead, these definitions have to be developed from the viewpoint of technology.

Amidst the discussion relating to the difficulty of explain ability in the patent process for AI, we consider it would be convenient to achieve consensus on the definition of when an algorithm of AI can be considered a blackbox and when it is considered that the explanation has been made explicable and complies with the requirement of adequate description and to establish data which have to be provided in order to give such explainability.

Mr. Stefan Dittmer, International Chamber of Commerce

ICC welcomes the definition of AI as proposed in the revised paper. They believe it is useful to limit discussions to the category of narrow AI which has clear and present implications to IP.

With regards to the distinction between AI generated and AI assisted output, they are concerned that it can create confusion as AI generated outputs may be equated to fully autonomous general AI whereas narrow AI applications will typically have at least some degree of human intervention at least with regard to selection of input. Does WIPO intend to further clarify this distinction to make it clearer for the reader that the distinction can be a matter of degree of human intervention rather than the presence of absence of it? With regards to the definition of output, they propose to add data as a possible output from an AI system.

With regards to the law defining the line between AI generated and AI assisted outputs, they appreciate that at the moment it may not be easy to establish what percentage of human intervention should be there to be considered material.

They find it important that any agreed upon standard should be the result of a multi stakeholder process that reflects the impact that the line drawn will have on a wide range of business models and on the evolution of AI applications.

Mr. Takeshi Ueno, Japan Intellectual Property Association, Councilor, Tokyo

Gaps should be filled in the definitions. In the definition of AI generated output, the propose adding 'with immaterial human intervention'.

Instead of materiality being used in the definitions, inventor eligibility under current law may provide more distinctive definitions. For example, AI output can be classified into three categories:

1. Invention generated by AI with the intervention of an eligible human inventor.
2. With the intervention of an ineligible human inventor.
3. Without human intervention.

Encouraged WIPO to select simple and transparent terms to which definitions are given or even terms used in numbers such as 1, 2, 3.

This can categorize AI output more clearly. In the WIPO paper, materiality is used but there is no definition. Constantly evolving technologies will make it significantly difficult to define it from a technical point of view. On the other hand, inventor eligibility is the legal requirement that courts judge so it can serve as core distinctive criteria.

Secondly, all practitioners can commonly understand the law and issues they are discussing. The first category is legally protectable today so we can discuss the operations under the current law.

The second category is not legally protectable.

In the third category, we should discuss in preparation for the inventions which could possibly be created some time in the future.

Lastly, we can provide definitions in a more neutral way.

Ms. Komal Kalha, Head of Intellectual Property and Trade Policy, International Federation of Pharmaceutical Manufacturers and Associations

They understand that WIPO focuses on the issue of AI output and not the patent issues concerning the AI itself. They suggest that WIPO also considers the AI itself as well as various forms of output whilst discussing issues of patentable subject matter and definitions.

In the revised paper, the difference between AI generated and AI assisted are defined in terms of whether there is a material human intervention. Such distinctions may eventually be used to make inventorship and patentability determination, they believe that the term material may need to be defined over time and build on the developments at national level.

Seek clarification as to whether these definitions are limited to the purposes of these workshops or are being proposed as international definitions to guide national patent systems. At this stage of AI technological development, they believe that the scope of this workshop should be to identify potential legal and policy questions that may help create awareness to these questions.

If the workshop seeks to go beyond and define the scope of AI for the purposes such as making patentability and inventorship determinations, this may be premature as many of these decisions are under deliberations at the national level.

They recommend identifying and studying best practices would be a constructive first step in addressing these issues in order to ensure that our IP systems continue to play their critical rile in advancing and enabling innovation.

Mr. Claes Hedlund, European Patent Attorney, Ericsson, Gothenburg, Sweden

AI generated and assisted outputs need to be clearly defined or at least clearly distinguishable. It should be safeguarded that uncertainty with respect to how AI generated outputs are handled by the patent offices that may arise in the future do not also introduce uncertainty with respect to handling of AI assisted outputs. There is a need to have a clear demarcation on how much human input should be considered material.

In 2020, many patent offices are rejecting patents on AI generated inventions like the Dabus patent application based on the fact that an AI system cannot be an inventor. At the same time, a Chinese Court has stated that the external form of the AI generated article is up to the standards of written works and therefore should be provided IP protection. This shows that different jurisdictions have different opinions which imposes a difficult challenge which identifies the need to define the line between AI generated and AI assisted outputs. There is a requirement for a common standard across the jurisdictions in which they think WIPO could play a significant role.

Most of the current AI based inventions are AI assisted i.e. involve human input. It needs to be identified to what extent human involvement is to be considered to differentiate AI generated from AI assisted outputs. If the sole inventor is an AI system or application, then can it be considered an AI generated invention? They suggest that inventions where the human contribution to the invention is relatively small in comparison to the AI originated contribution, it should still be considered AI assisted. If AI generated and assisted inventions are not clearly defined then patent grants for the AI assisted inventions would be affected due to the lack of clear definitions or guidelines. The identification or differentiation of AI generated and AI assisted inventions would become a subjective decision.

The bar for granting AI assisted inventions may be affected based on the process for AI generated inventions and this could give rise to situations where a valid AI assisted patentable invention could be denied IP protections. Extensive IP thickets may be caused by a flooding of AI generated inventions utilizing the patent system to bring the advantage by excessive assertion and this could in turn raise new arguments for questioning the new IP system. The existing IPRs system thus needs to evolve.

Many fundamental concepts on the current IP laws might have to be changed which would speak in favour of creating a new IP law. It would be too cumbersome to shoehorn in all the potential necessary changes in the current laws. For example, concept of inventor may have to be redefined.

Mr. Jonathan Osha, Co-Vice Chair, AI & other Emerging Technologies Committee, IPO, Houston, United States of America

Clarity of terminology is essential to permit a coherent discussion of the policy issues around AI and IP. Noted two areas that may be problematic. First, AI is defined broadly in a manner that would include general AI. However, for purposes of this paper AI generally equates to narrow AI. This may lead to a lack of clarity as to which sense of AI is intended in a particular usage instance especially when the term is used in the later parts as AI generated and AI assisted.

Second, the terms AI generated and generated autonomously by AI are defined synonymously to refer to the generation of an output by AI without human intervention. This appears to be referring to general AI. However, existing applications of AI meaning narrow AI can once conceived and implemented by a human generate output without human intervention as such. Hence the use of AI generated and generated autonomously by AI as synonyms may lead to confusion. In light of this, they propose defining three categories of AI related inventions and outputs:

First, core AI inventions. Core AI inventions are technologies that have general applicability such as AI accelerator chips and improvements in GPUs.

Second category would be application specific AI inventions. Application specific AI inventions employ these core AI technologies as one component in a larger context to perform tasks more intelligently. In other words, this type of AI related invention applies one or more core AI technologies to a specific problem or task domain.

The third category would be AI generated outputs. These are inventions, works, data, designs, trademarks including products, processes or other material artefacts that are designed in whole or in part by an AI system. The resulting output may or may not result to AI. The quirks of the issue regarding this category. They believe that AI should be viewed as a tool that can help human inventors and creators through the R&D process to create new products ranging from simple objects like furniture to complex structures such as airplanes. There is a lot of work involved in selecting the appropriate AI model, setting up the model, selecting and preprocessing the suitable data etc. Thus AI generated outputs today require that this work be done or directed by a human.

They thus propose a subcategory of AI generated outputs as follows: Outputs generated autonomously by AI defined as AI generated outputs that are made without human direction, involvement or intervention.

Ms. Daniela Simone, Honorary Lecturer, University College London, United Kingdom

The key element in the AI generated-AI assisted distinction is the requirement of material human intervention. Defining what it material is challenging. Such a vague term lacks a stable point of reference that would enable AI generated-AI assisted distinction to be understood consistently.

What counts as material human input may be susceptible to different interpretations depending on the context in question. When discussing the subsistence of IP rights in AI outputs for instance one might tend to associate material human input with one that meets the threshold requirements for

the right in question. If we take this approach to material, we'd have a different meaning depending on which IP right is under discussion.

There are still other variables that may affect the definition of material. Human input could be judged to be material based on its quantity, on its observable impact on the output or by reference to some intrinsic quality such as the skill effort or creative choice it entailed. Things become even more complex when multiple human input are involved. In such cases, should material human input be assessed on an individual basis or in aggregate? The multiple varied inputs in AI creative processes gives rise to great legal complexity and sometimes the issue paper sidesteps this complexity by focusing mainly on AI generated outputs.

Framing the conversation this way has a risk of restricting the opportunities of discussion on how standard IP law principles apply to the vast majority of AI implementations which will still rely on some human input. There is significant uncertainty and international divergence in relation to these principles and that uncertainty will often coalesce around the question of what counts as material contribution. Given IP law's aim to reward and incentivize human creativity, the protection of AI assisted outputs should be at the heart of this conversation. She makes two suggestions.

First, the definition of the term AI assisted as its currently framed should not be enshrined into law because it is too vague to provide sufficient guidance. Furthermore, the current definition risks potentially concealing important disagreements as to what counts and what ought to count as material human input.

Secondly, as most AI works require multiple and diverse types of human input, at this stage, she suggests that it would be prudent to adopt a broad view of what counts as a material human input to an AI assisted work.

Finally, she appeals for more attention to be devoted to the application of existing IP principles as these relate to AI assisted works to ensure that the people behind the machines are kept at the forefront of the conversation.

Mr. Dino Gliha, Attorney at Law, MGG Law Office, Zagreb, Croatia

It is necessary to start with the very definition of what AI truly is. The definition proposed in the preparatory materials seems too technical and it does not in a clear way define what AI truly is. It might also collide with some of the already established concepts. From both legal and technical perspectives, AI should relate to something that actually overpasses software and inventions.

The fact that AI is a complicated matter does not mean that we cannot find a simple definition to start with. In 1970s, an elegant description can be found in the work of Nikola Tesla in his article on the problem of increasing human energy, he refers to AI as follows "whether the automation be of flesh and bone or wood and steel, it matters little. Provided it could perform all duties required of an intelligent being. To do so, it had to have an element corresponding to the mind which would

affect the control of all its movements and operations and cause it to act in any unforeseen case that might present itself with knowledge, reason and experience."

It is quite interesting that already at the end of the 19th century, we have an advanced understanding of what AI is. If we stay with too technical concepts, problems are imminent starting from the very definition.

In the essence of copyright is the essence of natural rights. Proponents of civil and common law would agree that an author can only be a human being. However, one of the main characteristics of AI is that it is capable of imitating human intellect. But it should not be acknowledged as an author because that completely changes the concept. Then again, it does not seem proper to attribute copyright to the developer of the AI. Should we consider granting AI some kind of limited legal capacity? It would not be the first time e.g. companies are already owners of copyright.

It is thus crucial to start with an adequate and clear definition.

Ms. Luo Li, Assistant Professor in Law, Coventry Law School, Coventry University, United Kingdom

It is necessary to divide AI produced outputs into three categories based on substantial contribution, the degree of human intervention and AI's capabilities in producing those creative outputs.

AI supported output refers to those outputs that are produced by a rules based AI system that follows the rules defined by humans without the substantial contribution. These systems simply execute AI defined rules without its own decision making capability and a substantial contribution by themselves.

The term AI assisted output refers to outputs that can define rules by themselves without the human intervention, very limited freedom in decision making and can contribute a limited effort but highly relying on human intervention and statistic analysis. It should have two features. Firstl, they can only rely on historical data to define the rules and then give their choices and predictive results but not able to do so beyond the data.

Secondly, whether or not AI systems can make ltd decision making depends on algorithms designed by the human engineering. In this case, we can say human contribution is still the central status and AI efforts are at an assisted status. However, it is still worth thinking about AI's ability of this limited decision making and producing outputs not being predictable exactly by humans because this shows a feature of being out of human control to some extent which may prove to be a substantial contribution. That would distinguish them from AI supported output.

The term AI generated output refers to outputs made by AI systems that are based on contextual adaptation and freedom of decision making during the output generation process through integrating the ability of perceiving abstracting and reasoning by themselves with minimized human intervention and embracing their own understanding of the real world. AI systems pricing AI generated outputs start by thinking of themselves. These would be problematic for the existing

IP system to apply so we may have to consider separate system to consider AI authorship, inventorship etc.

Prof. Martin Senftleben, Chair of Intellectual Property Law and Director, University of Amsterdam, Netherlands

Seeking to further develop the distinction, the category of AI assisted works is of particular interest. Within this category, it is important to note that there are several starting points for demonstrating human input in a copyright context. First, there is human input in the preparatory phase before the machine actually starts creating. Second, it is possible that a human influence has a direct impact on the creation phase itself. Third, human intervention is possible after the creation has been created by the machine in the final selection phase concerning what kind of creations would be brought to the market.

In practice, the inclusion of all three phases of potential human input offers ample room for broadening the category of AI assisted works. At the same time, it is important to note that the option of broadening this category of AI assisted outputs raises important policy questions such as the risk of reducing the public domain as a result of bringing more and more literary and artistic productions under copyright law. Second, the risk of an alternated overproduction of literary and artistic works that may increasingly affect demand for human creations and thirdly the question of liability for AI assisted outputs that may infringe IP in preexisting source material. Against, this background the distinction between different phases of input within the category of AI assisted works can contribute to an appropriate configuration of the scope of protection.

For instance, human investment in the preparatory phase and/or the final selection phase could offer the starting points for granting only neighboring rights protection instead of full copyright protection.

Dr. Seungwoo Son, Professor, Chung-Ang University, Seoul, Republic of Korea

In Korea, there is an AI company whose AI can produce a song within a few minutes. The company hires a composer to compose songs with the machine. However, the company's AI can make a song by itself without human intervention but it also allows AI to create a song through the human intervention in order to create a song which humans can enjoy. Therefore, the distinction is necessary and there will be a difference in terms of the legal rights. In AI assisted output case, there is a human intervention so it is natural outcome that certain rights exist for humans. However depending on the degree of the human environment there can be various forms of creations. When humans intervene in the musical instruments or in compositions, these can be material contributions.

The term output in the paper is defined to include invention, works, designs etc. In the current copyright and patent law, the terms works or inventions are specialties of human creations. In other words, inventions, works, designs, trademarks are the targets of the current legal protections. If AI

general works or output is introduced into copyright law, the law must distinguish between human works and AI generated works. This distinction is necessary for human users therefore the law in the future needs to distinguish between human works and AI generated works.

Mr. Örjan Grunden, International Association for the Protection of Intellectual Property

In discussing the distinction between AI assisted and AI generated generations, the natural starting point is the human. Traditional inventive contributions were human. The AI generated inventions are fundamentally different since all inventive contributions are generated by computers instead of by humans. AI assisted inventions represent an intermediate stage of technical development of the use of AI in the innovation process which generally speaking has made it possible to gradually decrease human intervention and gradually increase AI generated inventive contribution.

In that sense, it seems technically relevant if AI has provided the dominating inventive contribution not if the human contribution has been reduced to zero.

In view of this gradual transition from AI assisted to AI generated invention, ti seems unlikely any technical based boundary line between them. It is an established principle of patent law that only humans can be named as inventors and therefore AI generated inventions cannot be patented. Without having a technically significant boundary between AI generated and AI assisted, it would give rise to inconsistency in the global patent system to apply this distinction as a legal boundary between patentable and non-patentable,

To incorporate AI generated inventions in the current patent system, however, also gives rise to several legal issues that require careful analysis and policy consideration.

Ms. Shira Perlmutter, Register of Copyrights and Director, U.S. Copyright Office, Washington, D.C.

The practical implications surrounding the new technology are wide ranging and have the potential to impact rights holders, users and consumers by affecting the protection of and market for copyright works ingested for machine learning and the resulting outputs.

AI raises questions for the operation of the US copyright office. They have long maintained that they will only register works of authorship created by a human being. The increase in machine assisted and machine created works adds new levels of complexity to this determination as the line between human and machine authorship becomes blurred. There are diverging views regarding the role of copyright in AI. They believe it is vital to foster international communication and take a measured approach to identifying the issues and take appropriate steps forward.

It is equally important to encourage countries to develop their own perspectives by exploring how AI interacts with their own national systems and values.

Session Two: Trademarks

Keynote speaker: Ms. Tiki Dare, International Trademark Association

When we talk about trademarks we're not looking at AI as an author or an inventor but the circumstance when consumers purchase products using AI tools can make a very big difference on marks. Trademarks identify the source of goods and services and they also identify the qualities or attributes of the goods and services and this is important for consumer protection.

For instance, when we talk about the quality of a product, it may be the overall quality or even whether it has imporntant attributes such as environmental compliance and protection, regulatory compliance, consumer safety etc. When we (trademark owners) pursue counterfeits, one of the things we guarantee to consumers is that the products meet all the attributes and when you encounter a counterfeit product, you may not be getting all the attributes.

Distinctiveness of the brand: Does it distinguish your goods with your brand from other goods in the same category? Is there likelihood of confusion? What is the average consumer in an AI assisted purchasing environment? Do consumers have imperfect recollection or can they have better recollection in an AI controlled environment.

There are certain considerations that are important in that AI controlled environment.

How will AI impact the way consumers encounter goods, search for them, compare them and select them? How does AI recommend or narrow choices for the consumer?

Secondarily, what is the legal responsibility when an AI system is making, narrowing or influencing a consumer's choice? What is the legal responsibility of that AI system for counterfeit products? What is the AI system's legal responsibility if it has a bias built into the algorithm and it excludes certain products?

Finally, what is the interplay of AI and the consumer and the brand when you have an IoT purchased e.g. for example if your refrigerator makes automatic purchases or it chooses the repair system. Does the consumer get to choose?

Interventions

Mr. Lee Curtis, Partner, HGF Limited, Manchester, United Kingdom

Trademark law fundamentally concerns itself with the purchase of goods and services and if AI is impacting on the way those products are purchased then by definition it impacts on trademark law.

AI impacts the purchasing process in two ways: what brand info is available to the consumer and who makes the purchasing decision.

AI personal assistants such as Amazon's Alexa have the potential to be the gatekeeper between the consumer and the brand controlling what brand info is available to the consumer with little or

no human interaction in a what was termed by the Harvard Business Review as the 'Automatic Execution Model' where effectively AI is tipping the traditional shopping model from a shopping and shipping model to a shipping then shopping model. Many aspects of trademark law concern human frailty such as confusion, imperfect recollection, association and slurring of trademarks. However, AI effectively has the ability to take out both the human and the frailty from the purchasing process. AI applications can be delegated to purchase products via general commands such as 'buy me a light bulb.' The human consumer in that instance would have no interaction in what brand of light bulb the AI applications actually purchases. In that situation, can an AI application be confused, does it slur trademarks, does it even assess a product purchased with regards to conventional means of oral phonetic conceptual comparisons of trademarks? This is one of the so called 'black-box' issues of AI in the trademark field. AI applications are often influenced by the past purchasing decisions of the individual consumer. Why an AI application may make purchasing decisions or suggest a product to a consumer is often hard to fathom. There is also the important question of liability for IP infringement in these scenarios.

However, even if an AI application does not take the purchasing decision, it still has an impact on the brand information available to a consumer informing the purchasing decision. For example, Amazon Alexa on average only recommends three products to a consumer when you order through it. Therefore, the device rather than the consumer has all the brand information available to it. However, the application of AI in the purchasing process has to be placed in a historical context. The rise of AI is new but it is not unprecedented. Modern trademark law was created in the 19th century but the purchasing process hasn't been constant over history. In the 19th century, you had the traditional shopkeeper model. In the 1920s, there was the rise of the modern supermarket. This has been followed by the rise of the internet and then the rise of social media. Trademark law has adapted and changed throughout.

If you look at liability for AI applications, one can look at the key word 'advertising' in cases such as Google France which directly developed as a result of internet shopping. In that instance where you have a player in the purchasing process such as an AI application which takes a passive role in the purchasing decision, the AI application should not be found liable neither should the owner be found liable for trademark infringement or design infringement.

However, where they take a more active role in the purchasing decision of the consumer potentially manipulating algorithms to push a consumer to a particular purchase, there is a potential for the owner of the AI application to be found liable.

Ms. Helen James, Head of AI and IP Policy and Futures Programme, UK Intellectual Property Office (UK IPO), Newport

The question of ownership in the context of AI is also applicable to trademarks as it is to other IP rights. The same can be said for liability for infringement which is relevant in the trademark context. However, there are some questions about human perception and brand recognition which are unique to trademarks. Finally, we are also interested to note the proposed questions about how

we take AI tools. For example, the further development of AI beyond a complementary tool with possible further integration into administrative processes.

Ms. Maria Covadonga Perlado Diez, Department of Legal Coordination and International Relations, Spanish Patent and Trademark Office, Madrid

From the viewpoint of trademarks, they consider that the tools of AI will help offices from the internal viewpoint in examinations as well as the external viewpoint for the purposes of helping system users.

For the purposes of examining applications, they have seen that the implementation of AI tools and our data processing systems would increase efficiency both from the viewpoint of facilitating classification of applications according to the Codes of the Vienna classification as well as in the process of seeking prior rights for trademarks which can be affected by new applications for registrations. The AI tools will make it easier to have an automatic classification and a broader and more precise search system. These systems are always a tool in the service of the person carrying out the task and will never replace that person because we consider that final supervision is required to take a decision concerning which results will be relevant for the purposes of a final report.

From an external viewpoint, these AI tools will make it possible to carry out more precise searches in our registers and consequently to find out more exactly what monopolies are granted in order to assess the possibilities and strategies for claims to registration. Beyond this initial approximation of AI in the intial phases preceding registration, they haven't discovered that users from the OEPM have raised any particular concern about the AI application process. As to the use of AI outside the registration procedure, the use of AI by the consumers either deliberately or involuntarily for selecting products will probably affect a recognition of trademarks. The use of AI particularly by large multinationals could reduce the ability of SMEs to protect their IP presumably because these SMEs do not have the same access to these predictive tools in order to take commercial decisions. For the time being, there is no need to reconsider the functions of trademarks or to redefine legislative concepts despite the fact that the growing use of AI in marketing and the proliferation of AI used by consumers in the context of applications in the IoT. Nevertheless, we have to stress that Spain along with other EU countries has endorsed the paper on AI titled 'Innovative and trustworthy AI: Two sides of the same coin' in which we highlight the need to provide incentives for developers and implementers of AI to promote proactively and systematically a type of AI, which is reliable and for the benefit of society, consumers, citizens and the economy.

They suggest having recourse to solutions such as self-regulation system of voluntary European labelling and other voluntary practices. They advocate a process for sound standardization as a complement to the existing legislation to guarantee compliance with the standards of safety and protection. Along the same lines, the European parliament has been a pioneer in formulating recommendations concerning the guidance for norms that will govern AI in which there is a confluence of ethical questions, third party liability and IP rights which are based on seeking to balance out a protection of citizen's rights providing impetus to technological development. A

system of liability which is future oriented to protect firms and private parties. An effective IP system with guarantees for developers.

Ultimately, they believe it should be the owner who should be responsible for the actions of AI without prejudice to possible actions that could be taken with the firm that created the AI software.

Along the same lines, supportive actions can be carried out to find out what software has been produced based on which IPR and to implement immediate responses and mechanisms and to endorse liability insurance to cope with possible claims from users for damage caused by the users of such technology.

Possible litigation which can be tackled from the viewpoint of IP infringement will require in many cases, combined actions for infringement of IPRs and also actions specific to competition laws such as for example the use of ad words, meta tagging and the possible undermining of the functions of a trademark through the use of these words.

Korean Intellectual Property Office, Republic of Korea

They insist that the subject of this conversation should include the trademark field and we are

One of the main functions of a trademark is to assist product selection for consumers. It is clear that AI technology will have a significant impact in such situations. In this context, the issues of trademark and AI presented by WIPO are good starting points for further discussion. In future discussions, we need to consider two things.

First, discussions on AI and trademark need to be conducted in accordance with the development of AI technology because the impact of AI on trademarks will be determined by the trends of AI technology. Second, some issues such as who is ultimately responsible for AI actions when recommendations include infringing products cannot be served by trademark law alone but must be considered in association with other laws such as civil law. Therefore, our discussion on AI and trademark needs to keep pace with other relevant laws.

Mr. Rahul Bhartiya, Digital Transformation Department, European Union Intellectual Property Office (EUIPO)

Detailed their AI initiatives. They are implementing AI in the field of trademarks not only on the technical development but also form the organization point of view. We are aligned with guidelines set by the European Commission to create a trustworthy and human centric AI defined by EU AI alliance. Pointed out that EUIPO believes that machines will not take decisions alone but rather AI algorithms will help examiners to take decisions faster and enhance the quality. AI will help great deal in its current form in the field of trademark. AI based services for classification, comparison of signs, comparison of goods and services etc. These will enable trademark filers to predict the possibility of successful registration or to find any possible likelihood of confusion with already registered trademarks.

Another useful application is the chatbot which supports users 24/7. However, we should keep in mind that users should always have an option to go back to a human agent. They also plan to equip trademark examiners with AI based tools helping them in absolute ground and relative ground examination mainly by creating a predictive model based on historical quality decisions. However, it will be the examiners who will take the final decisions. They sees AI as a partner which will help users by gaining efficiency, reducing trademark filing and registration time enabling humans to focus on more complex tasks.

Mr. Stefan Dittmer, International Chamber of Commerce

On paragraph 39, there could be an issue in the enforcement of the trademark if the trademark itself would otherwise be copyrightable. In some jurisdictions, ownership of copyright to the image of the design trademark is a basis for initiating an opposition/invalidation proceeding against a third party trademark. They thus question whether If AI generated or AI assisted works are not protected by copyright in some jurisdictions, should that mean the option of using that copyright as a basis to oppose or invalidate a trademark would be unavailable.

On paragraph 39 (3), do the functions of tm law need to be reconsidered? They suggest that a further consideration can be given to the question of whether liability for the use of AI tools is sufficiently addressed in the existing trademark framework. They hint to the concern that how the AI communicates trademarked goods or services may create evidence of generic use of a trademark. Once an AI system begins responding to the end user request by using a trademark for a generic product, it may be difficult to control the AI's use of a trademark.

On paragraph 39 (4), does the use of AI knowingly or unknowingly by the consumer for product selection affect brand recognition?

Many feature of a trademark like pronunciation appearances, impressions and connotations impress upon consumer's minds and inform purchasing decisions. Some of these distinctive features are not discernible by AI. For example, in case of AI that communicates with consumers through verbal responses, that communication is limited to the pronunciation of the trademark and consequently the AI could fail to consider for instance visual differences between competing marks. Given the overall similarities between marks, the AI may respond with unintended results.

Generally, the described principles of trademark law, the distinctiveness, recollection, likelihood of confusion are based on the perception of the human mind. It should be carefully assessed whether or not adjustments to these principles are required and if they adequately frame the use of AI. Trademarks are meant to convey trust in the quality or origin of a product or service and trust is not among the categories discernible by AI.

Session Three: Impact of AI on IP Policy: Technology Gap and Capacity Building & Accountability for IP Administrative Decisions

H.E. Mr. François Rivasseau

He stated that this session would deal with two issues:

- Capacity building (issue 15)
- Accountability for IP administrative decisions (issue 16)

- On issue 15, para. 45, as discussed in their May paper, lists two sets of questions
  - What measures, as general Policy issues in the IP field, could be envisaged in order to reduce the technological gap?
  - What kinds of cooperation mechanisms between countries of similar technological development in AI and IP could be envisioned?

Ms. Nta Ekpiken, Partner and Head of IP Practice, The New Practice (TNP), Lagos, Nigeria

Speaking on the first issue, she pointed out that the AI technology is advancing at a rapid pace, at the same amplifying the risk of the existing technology gap between developing countries and developed countries, instead of mitigating it.

She stated that the subject matter of capacity goes beyond IP policy and intersects across education, labor, human rights and requires collective effort across various field to drive capacity building and mitigate the technology gap

Pointed out some measures that could be considerably effective in mitigating the gap are likely to be as follows;

- Practical instead of policy based – it should be taken into consideration the practical realities of each country
- Agreed upon on an international level and further implemented on the local level
- Reward and encouragement for small countries and economies to thrive in the global AI ecosystem

On accountability for IP admin. Decisions, she highlighted the following questions that a developing country, like Nigeria, would ask:

- Should AI be allowed for decisions in the prosecution of IP applications?

Her response was yes, giving the example of trademark search process, stating that if AI would be used in this process, the turnaround time would be less.

- What legal questions are raised by using AI applications for decisions in the AI prosecution process?

Here she raised a question and asked whether AI is recognized by our laws or if it is even contemplated. She observed that our laws are outdated and are playing catch up, however, in Nigeria, some are being updated now.

- What type of decisions can be determined by AI in IP offices? Are there additional areas that IP offices can explore for the deployment of AI tools for IP prosecution and registration?

Her answer was yes, giving the example of AI use in searches and examinations.

- Do any legislative or regulatory changes need to be envisaged to facilitate or address the consequences of decision making by AI applications?

Her response was yes, stating that our laws have to be updated and make room for future technologies.

She then addressed what she termed as the ultimate query for the use of AI in IP administration; Should AI be the final arbiter of IP administration decisions or Must there always be a human-based process that can be followed?

The popular opinion is that AI should not be the final arbiter and that there must always be a human-based process that can be followed. AI systems are not infallible, especially where there infrastructural challenges lice poor power connectivity.

There has to be human based process alongside AI

Additionally, she pointed out if AI is being used in decision making process, the details of the AI system regarding training sets, biases, assumptions, and identification of how the learning models developed must be made available for referencing

Transparency is crucial and will lead to accountability

H.E. Mr. François Rivasseau

Introduced the next issue to be discussed, which was on 'Accountability for Decisions in IP Administration'; stating that this issue was more of an in house problem than the previous one

Pointed out their main paper listed down 5 questions;

- Should AI be allowed for decisions in the prosecution of IP applications? What are the legal questions raised by using AI applications for decisions in the IP prosecution process?
- Which types of decisions can be determined by AI in IP offices? Are their additional areas that IP offices should explore for the deployment of AI tools IP prosecution and registration?

- Should any policy or practical measures be taken to ensure accountability for decisions made in the prosecution and administration of IP applications where those decisions are taken by AI applications? Which principles should AI applications used in the prosecution and administration of IP applications follow (for example, the encouragement of transparency with respect to the use of AI and in relation to the technology used)?
- Do any legislative or regulatory changes need to be envisaged to facilitate or to address the consequences of decision-making by AI applications (for example, reviewing legislative provisions on powers and discretions of certain designated officials)?
- Are current appeal mechanisms equipped to deal with appeals due to decisions made by AI?

Keynote Speaker: Mr. Yuri Zubov Deputy Head, Federal Service for Intellectual Property (Rospatent), Moscow

The concepts supposes the need for developing a regulatory environment that is capable of supporting AI technologies. Decisions are taken by experts. However, the use of AI will make it possible for experts to obtain preliminary decisions which would significantly speed up the work of experts.

In the future it would be more prudent to delegate well defined tasks and decisions for AI tools. One of the main barriers in actively using AI systems is the lack of sufficient trust on the part of society and regular users. It is because of the lack of understanding of the procedure used by AI in arriving at its decisions that the trust is low.

On the accountability for harm likely to arise as a result of an AI system operation, when applying accountability to systems, there is need to work on new legal, criminal and administrative accountability provisions. There is also an issue on the legal mechanisms for appealing AI decisions.

When AI systems are developed, one needs to bear in mind 4 principles

- People centric approach, where the ultimate goal for applying AI systems is ensuring protection rights and freedoms of citizens in raising well fare standards
- Inadmissibility of using AI systems to cause harm to citizens or legal entities
- Transparency in AI processes and functionality ensuring that users have access to information about AI algorithms
- Observance of ethical norms, ultimate control is retained by people and AI should not be allowed toward to illegal actions

On the use of AI technology in administration, this makes it possible to reduce a number of operations and to reduce costs and to speed up decision making, however the final accountability should be proportionate.

Ms. Maria Covadonga Perlado Diez, Department of Legal Coordination and International Relations, Spanish Patent and Trademark Office, Madrid

AI can be a factor for growth, development and job creation**.** WIPO could play an essential role in reducing the technological gap by making available to member states AI tools with the aim of promoting consistency and defray the cost of tools for national offices with fewer resources.

Their AI working group and through their own experience through training programmes and skill building seminars, they are ready to collaborate on this initiative; they favor bilateral relations with other offices. She thinks it may be useful to have working groups and prepare questionnaires, to share experiences and best practices on AI among offices

Despite COVID – 19, we should continue exploring new tools to have a greater impact on achieving shared objectives. AI can be used as a tool to facilitate processing IP right applications and not procedure. The decision to finalize, grant, oppose, recourse or revoke IP rights must always be adopted by a human being.

This is because human beings incorporate practical considerations in their decision making process. The use of AI would raise several legal issues, one being the possible bias of AI. On ethical measures for AI – practical measures must guarantee accountability in IP admininistration.

In line with the European Parliament, public authorities must carry out impact assessments on fundamental rights before implementing high risk authorities that will have an impact on rights and obligations of citizens**.** AI is tool that facilitates decision making because the decision in the final analysis should be that of a human being

Along the lines of the European Parliament report, on the framework of ethical aspects of AI, it is important to work transparently. They do not consider it necessary to have any legislative change to facilitate decision making by AI applications**.** AI should always be a tool in the service of human beings, who are the final arbiter and the ones to suffer the consequences that arise from their decisions. The current Spain appeal framework is not prepared to deal with appeals that are consequences of decisions adapted by AI.

Republic of Korea

Additional to the publication of WIPO technology trends (2019) on AI, member state voluntary efforts are important in helping reduce the existing IP gap

The study on potential application of block chain technology is ongoing, under the funding trust of Korea and WIPO, with hopes that the results would help breach the IP gap in relation to new emerging technologies.

Canada

Agree with the views presented by WIPO in the revised issues paper. A co-operative approach is essential between countries moving forward. Canadian Intellectual Property Office (CIPO) has published their latest report on the analysis of data in IP titled 'Processing Artificial Intelligence'

Agree that the technology of AI is advancing at a rapid pace creating the risk of the existing technology gap being exacerbated rather than reduced. Continues cooperation between IP offices will contribute to the capacity building between countries and also contribute to the containment and reduction of the technology gap in AI capacity. There is a continued need for international discussions in the area of AI and IP.

Uganda

Made intervention on issue 15 (Capacity building) and acknowledges the importance of capacity building. Their Ministry of Science, Technology and Innovation wants to establish an AI-Innovation cluster initiative and would appreciate support from various stakeholders. Not knowing what the field of AI and IP have in store, having the cluster will allow the various stakeholders to raise issues and have them addressed in an organized manner.

Expressed that in comparing AI ecosystems of the different member states, we are not on the same level. Through critically addressing this issue on capacity building, led by WIPO, each country can get a chance**.** Suggested aspects of technology transfer, exchange programmes between inventors in AI and practitioners in the same space**.** WIPO should/could adopt AI-innovation cluster initiative in majority of the countries

Mr. Andrey Sekretov, Director, International Relations Department, Eurasian Patent Office (EAPO)

Intervened on issue 15. Questions are there with regard to the need for capacity building in industrial property offices and the possible role of WIPO and other IP offices.

When discussing new AI tools, they consider the following aspects

- Basic software
- Its adjustments for specific purposes
- Databases for machine learning
- Hardware supply
- Training experts

Most of the AI software they have come across use open source codes, questions arise as to how these programmes can be adjusted to attain high quality results

Many months can pass before concluding on the applicability of a specific AI tool for a specific purpose. WIPO could set up an electronic forum/ platform where WIPO technical experts, national and regional, could exchange information on technologies and their findings; which could also be used to organize training courses for AI experts. There is need for high quality databases for machine learning and training AI systems

A harmonized global policy needs to be in place for the collection and access of data bases for machine learning. On hardware supply, the use of AI systems as a service as done by WIPO, could be an approach that is developed across the world. The use of already trained systems, as applied by WIPO, where a partner office receives and already trained model

Another possible approach would be to lease computation resources, data centers, or using cloud computing for machine learning. Regional offices can become humps in the dissemination of certain technologies in their regions

Mr. Vitor Ido, Programme Officer, Health, Intellectual Property and Biodiversity Programme (HIPB), South Centre, Geneva

The expansion of various form of protection, either through IP, sui generis rights, liability and contractual rules; if combined with the concentration of certain AI technologies greatly extends the existing technology gap. There is a need to clearly understand what it means to conduct capacity building. Technology is neither good nor bad; it is therefore about countries' preparedness and institutional development rather than the adoption of AI base and administration tools. An IP policy, in relation to AI, must be oriented toward the following 4 principles

- Real inclusivity
- Balance between protection of rights and access
- Development orientation
- Human rights based

Any forms of capacity building should take into account these four principles and be transparent with the specific challenges faced by countries, for instance they could benefit from the principle of south-south cooperation.

The views from IP offices and governments from developing countries need to participate more in the discussions, given that their condition may not be the same as that of the IP five offices.

Four countries that are in the process of the consolidation of their IP norms and institutions, this debate should also include their needs. All countries should partake on discussions on IP and AI with more attention being provided to the needs of developing countries and also to the risk attached. One such consequence would be how AI assisted and generated applications impact the patentability criteria.

Digital rights, access to knowledge, information and science be treated as human rights. Data governance, internet regulation and transfer of technology are elements that need to be further discussed.

Dr. Jin Keun Jeong, Professor, Kangwon National University Law School, Chuncheon, Republic of Korea

Capacity building in view of co-development in the IP market. It is likely that AI technology firms will monopolize the IPR related market. Countries that don't have enough AI technology can be bound to global companies that help build AI platforms. AI platforms do not allocate sufficient profit for the creation of individual countries which prevents technological development of individual countries, this widens the gap between countries in the fields of culture and technology. It may be a good idea to divide the AI market

Ms. Caroline Wanjiru Muchiri, Research Fellow, Centre for Intellectual Property and Information Technology Law (CIPIT), Nairobi, Kenya

On capacity building, innovation models in Africa have a preference towards open collaboration models with minimal priority an innovation protection. This innovation models favour open systems of innovation and require flexible and progressive IP laws to accommodate them. The incentive to innovate is dependent on both the context and circumstances of the innovator. Due to the contextual constraints innovators in developing countries draw their innovation from technology spillovers and absorption from developed countries. Restrictive approaches to IP protection may hinder the access to technical knowledge that the companies and innovators need to jump start their work on their innovations. Developing the technical capacity to create and implement such responsive IP systems will require a lot of support of the National offices.

On access to data, availability of data and having access to it is key in ensuring free flow of technologies between countries. The quality of data is also an important factor that contributes to these discussions. A protectionist IP system would be a hindrance in accessing quality data. On data subjects, data should be shared, however, with utmost transparency and consideration and protection of fundamental human rights the data subject. Recommended that capacity building efforts in developing countries should prioritize these focus areas.

On capacity building for IP offices, most IP offices in developing countries require infrastructural support especially human resources for administrative purposes. The human capacity building for members of staff in national IP offices should be localised and customised in a manner that reflects their ecosystem. National IP offices in developing countries require support to adopt and implement AI in their operations.

AI used in the administration of IP should be country specific and developed using local data sets and algorithms to avoid cases of discrimination and prejudice. Use of AI should still require human intervention especially where the interpretation and application of results is required. In some

countries the automation of processes is not a socially accepted norm and is seen as a sign of laziness. Automating a holistic implementation of AI in IP administration may have an opposite effect of discouraging people from seeking IP services from the National IP offices. Encouraged a holistic approach.

Mr. Yuki Shimizu, Director, Multilateral Policy Office, Japan Patent Office, Tokyo

The notion of consumers and trademark examination may change due to the growing momentum of increased involvement of AI in consumer choice of goods and services. If it becomes common for AI to influence consumer selection of goods and services it is necessary to assume consumers and attentiveness that the effects of AI are taken into account. A person selling trademark infringement products must be held liable when the product recommended by AI contains a trademark infringing product.

A provider of a service that recommend products through AI may also be liable when

- He or she has received a service usage fees.
- He or she is aware that the AI recommends trademark infringing products.
- He or she has not made a legitimate effort to remove them for reasonable period of time.

On issue 16, AI should not be given the authority to make determinations on whether an invention meets requirements for patentability, AI can however support examiners in making these determinations through prior search for example. This is because, user trust has not been gained for AI determinations in substantive examinations and further debate is required to ensure there is transparency and fairness, and AI technology has not reached an adequate level of maturity.

The use of AI to improve the efficiency of the IP system should be actively pursued. The Japan patent office has formulated an action plan for the use of AI and is currently considering introduction of AI into administrative tasks; for example prior art search support with the aim of attending a function that proposes patent classifications that can be used by examiners in formulating a search database and a function that primary represents prior art containing drawings that are highly similar to those contained in a patent application.

Another example of AI use is assigning patent classifications by AI, making it possible to search domestic and foreign purchase documents comprehensively with common patent classification. Transparency in the use of AI should be ensured so that examiners can understand and explain how AI created information relative to examinations. Further caution is advised with regards to trials and appeals. AI declared judgment must be scrutinized with great care along with having a I make judicial decisions.

Ms. Nancy Pignataro, IP Attaché, Economic and Trade Team, UK Mission to the UN and WTO, Geneva

Acknowledge there is not omniscient and the decisions it takes cannot be immune from scrutiny and oversight. At this stage it has been scooped for its supporting role at the application and preliminary examination stage. Review procedures at all stages of the rights granting process are an integral part of the IP system. The algorithms that have been tested for use across the different IP rights keep human in the loop to utilize the expertise and judgment.

Keeping humans in the loop and connected to the decisions by AI should remain a guiding principle. AI should be subject to the same oversight procedures, however, we need to carefully examine whether ensuring accountability nullify the gains brought by the use of AI.

If AI becomes further involved in administrative processes we will have to ensure that offices of judicial bodies are properly trained on AI, understand its administrative processes and its implications. There may be other legal issues to consider in devolving administrative functions to AI, e.g. will the definition of a registrar of trademarks have to be modified?

Mr. Saar Abramovich, Patent Examiner, Israel Patent Office, Jerusalem

AI search engines has potential to improve efficiency and quality of patent searches. Through a series of comparative studies using a test designed to compare the AI system performance to human examiners performance included two complementary questions;

- Does the system find the same prior art pieces found by human examiner?
- Does the system also find prior art not found by human examiner?

There are many methods of evaluating the performance of AI baste search engines. Defining a standard test for the evaluation of AI based search engines similar to those existing in other fields such as image recognition, will allow the IP national and international offices to compare results such systems. Such standards may establish data sets, test sets, and methods of grading each result and methods for presenting an overall measure of the engine quality.

Mr. Aydin Huseynov, Head of Support to Technology Transfer and Commercialization Division, Intellectual Property Agency of Azerbaijan

Presented 2 AI projects being run by the Azerbaijan intellectual property offices.

Mr. Richard Pfohl, Officer, ICC Commission on Intellectual Property, ICC, Toronto, Canada

On capacity building, the reduction of the gap in AI capacity is an important goal that should be encouraged with the participation of business and within the existing framework for technology transfers.

On accountability for IP administration decisions, AI could be used to make decisions in the prosecution IP applications including those based on judgment or discretion such as whether a patent should be granted.

How?

- There's a need to prove the capacity of AI systems to make such decisions. ICC recommended a transitional or test phase during which AI systems wood be used to offer recommendations with the ultimate decision made by humans. The quality of AI generated recommendations can then be evaluated. Feedback data gained during this transitional period could be used to test and possibly improve the AI systems. If and when AI systems are judged capable they could then gradually be phased in for making decisions.
- AI generated decisions must be subject to the same rules as human made decisions. Decisions must be duly motivated and reasons for decisions clearly stated to allow for uninformed reaction such as an appeal or complaint by a party

To ensure transparency the applicant should be informed as to whether the decision has been made by a human or AI system. The applicant should have the right to ask in advance for human need decision, and in the case of an AI made decision the applicant must have the right to request for human review.

Any communication of an AI taken decision should clearly state the following in pursuit of transparency;

- The decision was taken without human intervention.
- The decision is subject to human review at the discretion of the recipient.

Mr. Stephen Wyber, Manager, Policy and Advocacy, International Federation of Library Associations and Institutions, Utrecht, Netherlands

On what limits of speech may be needed, they hope that there is consensus that the requirement to pay a licensing fee should not be one of them. On the use of AI to enforce and administer copyright law, it is vital to ensure it is does not limit lawful and legitimate expression and speech.

IP should not stand in the way of transparency and widely accepted open governance principles.

Mr. Matthew Luby, Head of Client Services, Amplified, Tokyo, Japan

Efficiency of prior art search directly impacts the prosecution of patent applications and therefore patent quality. AI can assist at the pre-filing and post grant stages of patents.

If AI is used as part of the IP decision-making process, human examiners must remain as part of the process but their role changes. On where IP offices should explore for deployment of AI tools and prosecution, AI should be used to facilitate human decision-making by providing suggestions for prior art, classification and translation. Time-saving should be allocated to examiners with the goal of improving various examination quality matrix, time-saving should not be used to reduce fees or increase production volume per head

Ms. Heli Pihlajamaa, Director Patent Law, European Patent Office, Munich, Germany

On capacity building, the patent system plays an important role here, the accumulated patent documentation in various databases is an invaluable source of technical information that can be accessed and used without restrictions by anyone. On accountability for IP administration decisions, final decisions against which legal remedies are available remain the domain of humans. The use of AI in patent administration may take various forms, e.g. machine translation, machine assisted pre classification and search. They do not see any need for legislative changes in this area.

Director General - Daren Tang

The conversations should continue, however focusing on more concrete things that need to be addressed

Observed that the ongoing conversations have been quiet conceptual and suggested that the next set of conversations should be with policy makers and IP officers on aspects of AI that affect their operation.

He encouraged the continuation of the already ongoing conceptual discussions as they are still important.